

Date: Wednesday, 02/04/2008 3:39:25 PM  
 User: Julie Lecocq

## Process Sheet

Split

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : CROSSTUBE EXTRUSION (206B)
Job Number : 38335	
Estimate Number : 10026	
P.O. Number :	Part Number : D6003102
This Issue : 02/04/2008 S.O. No. :	Drawing Number : D6003 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : RMA	Drawing Revision : A
Previous Run : 29116	Material :
Written By :	Due Date : 20/11/2008 Qty: 39 Um: Each
Checked & Approved By : JO 08.04.03	
Comment : Est Rev:B 00.12.06 Added: Issue P/O EC	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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## Comment: PURCHASING

Issue P/O 6064

C 8/04/04

(39)

- a) Extrude as per Dwg D6003
- b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11 ) seamless aluminum tube
- c) Minimum ultimate tensile strength = 77 ksi
- d) Minimum tensile yield strenght=66 ksi
- e) Material certification required

2.0	D6003102P	Crosstube
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 39.0000 Each(s)  
 Crosstube

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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## Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage  
 Ensure material certification is attached

8/10/17 (10)

4.0	QC6	DIMENSIONAL CHECK
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## Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6003

8/10/23 (10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (206B)

Job Number: 38335

Part Number: D6003102

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*2/4 500/6/23*

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *HALL*

*AWM*  
*to 08/10/23 @ Hm MS*

7.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

*08/10/23 AJ*

Job Completion



*mf 08-10-23*



W/O:

## WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:

## WORK ORDER NON-CONFORMANCE (NCR)

DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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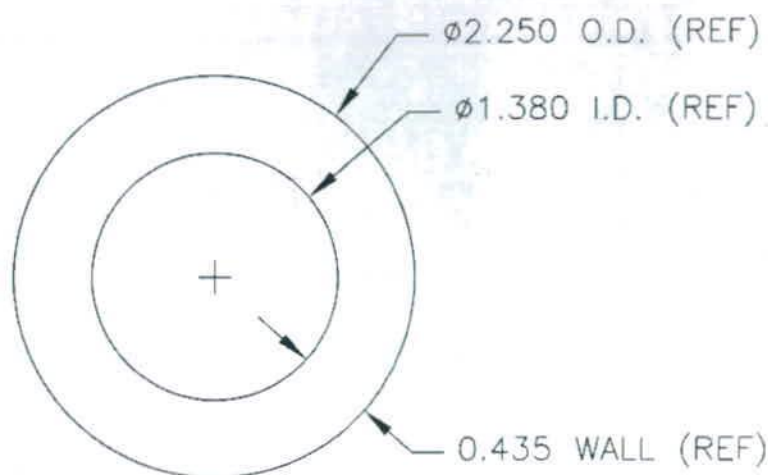
NOTE: Date &amp; initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <i>A</i>	DRAWING NO. D6003	REV. A SHEET 1 OF 1
DATE 00.11.22		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.22	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
00 11 24 *A*



### NOTES

- 1) D6003-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 102" LONG TUBE: D6003-102

- 2) MATERIAL: 2.250 OD x 0.435 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.006$  MEAN ( $\pm 0.012$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.044$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.125/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 38335

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1000

1000



## Packinglist ALUnna AG

Customer PO	PO. 0006064
ALUnna ref. no.	29105/1
Date:	09.25.08

**Boxmarking:**

Dart Aerospace PO. 00006064  
D 6003-102 Made in Germany  
Dest. Hawkesbury Ont. Canada

We hereby declare that the wooden packing material are totally free from bark and apparently

free from live plant pests

[illegible]





# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

**Kunde:** Dart Aerospace Ltd.  
**Client:** 1270 Aberdeen Street  
 K6A1K7 Hawkesbury, ON Canada

**Zeugnisnummer:** 1454/08

**Cert No. / No. du certificat:**

**Bestellnummer:** PO00006064

**Order No. / No. de commande**

**Auftrag:** 29105/1

**Our Reference/Notre Reference:**

**Produkt:** Rohre nahtlos gepresst

**Product / Produit:** Tubes seamless extruded

**Spezifikation:** AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6003

**Specification:**

**Werkstoff:** 7075

**Alloy/Alliage:**

**Zustand:** T 6511

**Temper/État**

**Abmessung:** 2,250 INCH x 1,380 INCH x 0,435 INCH x 102,000 INCH

**Size / Dimension:** D6003-102 2.250 x 0.435 x 102

**Kennzeichnung:** ALUnna - Cert No. 1454/08 - 7075 - T 6511 - Cast No. 81742 - AMS - QQA 200/11 - 2.250" OD X 0.435" Wall - Heat  
**Marking/Marquage:** Lot No. 1859 - ALUnna Order Conf. No. 29105/1-1 PO. 00006064

**Lieferung:**

**Delivered Material / Matériel délivré:**

pcs.

lbs

**Country of Manufacture: Germany**

10

256

## 1. Chemische Analyse

## Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
81742	0,07	0,13	1,38	0,04	2,45	0,19	5,73	0,04	0,01	0,03	0,01	0,01	0,0001

**Hydrogen content:** <0,10

**ccm/100 g Al** Elements without indication < 0,01 %

**country of melt manufacturer: Germany**

## 2. Mechanische Eigenschaften

## Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	77,0	66,0				
max.						
1	87,580	81,055	10,0			1859 - 10 pcs.

RMS: outside 25 - max. 16,1 µ"

### Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:**

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

**Resultats:**

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

